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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,694	02/27/2004	Stephen M. Potter	3932	9316

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EXAMINER	
MCNELIS, KATHLEEN A	
ART UNIT	**PAPER NUMBER**
1742	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/789,694	POTTER ET AL.	
	Examiner	Art Unit	
	Kathleen A. McNelis	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-6 and 9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-6 and 9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claims Status

Claims 1, 4-6 and 9 remain for examination wherein claim1 is amended.

Status of Previous Rejections

The following objections/rejections are withdrawn in view of amendments to the claims, drawing and specifications:

- The objection to the specification under 35 U.S.C. 132(a) as introducing new matter,
- The objection to the Figure 2 for not reciting "prior art,"
- The rejection of claims 1, 4-6 and 9 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement,
- Claims 1, 4-5 and 9 under 35 U.S.C. 103(a) as being unpatentable over Ando et al. (U.S. Pat. No. 3,831,913) in view of applicant's admitted prior art (specification p. 4 lines 10-14),
- Claims 1, 4-6 and 9 under 35 U.S.C. 103(a) as being unpatentable over Vilarreal-Trevino et al. (U.S. Pat. No. 6,395,056) in view of applicant's admitted prior art (specification p. 4 lines 10-14),
- Claims 1, 4-5 and 9 under 35 U.S.C. 103(a) as being unpatentable over Stephens Jr. (U.S. Pat. No. 5,810,906) alone or in view of Meissner et al. (U.S. Pat. No. 5,437,708) and applicant's admitted prior art (specification p. 4 lines 10-14),
- Claim 6 under 35 U.S.C. 103(a) as being unpatentable over Stephens Jr. (U.S. Pat. No. 5,810,906) in view of Meissner et al. (U.S. Pat. No. 5,437,708) and applicant's admitted prior art (specification p. 4 lines 10-14) as applied to claim 1, and
- Claims 1, 4-6 and 9 as provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, 4 and 5 of copending Application No. 10/789,696 (based on PG Pub. 2004/0261575) in view of applicant's admitted prior art (specification p. 4 lines 10-14).

DETAILED ACTION

Double Patenting

Claims 1, 4-6 and 9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, 4 and 5 of copending Application No. 10/789,696 in view of U.S.S.

With respect to instant claim 1, '696 claim 1 discloses a pretreatment process for solid lump feed material in a gas and pellet/lump based shaft furnace comprising preheating and predyring to a temperature range form about 200 to 500 °C and charging to the furnace. The range of about 200 to 500 °C overlaps the claimed range of about 200 °C; therefore a prima facie case of obviousness exists (M.P.E.P. § 2144.05). It would have been obvious to one of ordinary skill in the art at the time the invention was made to preheat to about 200 °C since '696 discloses equal utility over the range of about 200 to 500 °C. Since the material is charged after preheating, the temperature at charging would be expected to be less than about 500 °C, which overlaps the claimed temperature of 150 °C, therefore a prima facie case of obviousness exists. Further, even if no cooling of the ore occurred between preheating and charging, the temperature range of 200 to 500 °C is close enough to 150 °C that lacking evidence to the contrary one of ordinary skill in the art would expect the same results (M.P.E.P. § 2144.05).

'696 does not recite "micropores" lump feed or storing the material for at least one month.

U.S.S. discloses that a principle source of iron ore in the United States is the Lake Superior District ore reserves that comprise porous ores (pp. 257-265). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use porous ores as disclosed by U.S.S. in the process of '696 claim 1 since '696 discloses ores generally and U.S.S. teaches that such ores are a principle source of iron ore in the United States. Further, U.S.S. discloses that

since ores are often not mined during colder months, during the warm months it is necessary to store approximately ½ year's supply near the furnaces (pp. 570-571). ½ year (6 months) is within the range of at least 1 month. Although this storage requirement is discussed in relation to blast furnace production, the same problem would be expected for any facility utilizing the same feed material. While '696 in view of U.S.S. does not disclose that the water content is less than 0.5% by weight after drying, such would be expected since essentially the same material (lump ore) is dried at essentially the same temperature (about 200 °C). Although U.S.S. does not specifically recite "micropore" the ore disclosed by U.S.S. meets the limitation "micropore" lacking further definition in the specification of limitation on pore size.

With respect to instant claim 4, claim 3 of '575 discloses preheating in a storage bin with waste off-gases.

With respect to instant claim 5, claim 4 of '575 discloses preheating with gases in excess of 500 °C, which is within the range of in excess of 300 °C.

With respect to instant claim 6, claim 5 of '575 discloses a reformer associated with removal of off-gases.

With respect to instant claim 9, '575 does not claim the use of lime-coated pellet feed, therefore the charge is separate from such feed.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 4-5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ando et al. (U.S. Pat. No. 3,831,913) in view of U.S.S. and Kamikawa et al. (U.S. Pat. No. 6,372,016).

With respect to claims 1 and 5, Ando et al. discloses a method for reducing iron in a rotary kiln (abstract) where the iron is compound pellets or lumps of ore and a carbonaceous reducing agent such as coal or coke are also added (col. 5 lines 43-49). Ando et al. discloses drying in a traveling grate drying and preheating device (col. 7 lines 45-51). In an example, pellets are dried to about 0.5-wt% water content prior to charging into the rotary kiln (col. 9 lines 51-68). Although pellets are used in the example, one of ordinary skill in the art would expect to dry lumps to the same water content, since Ando et al. discloses equal utility for lump and pellet feed and since the same process is used. A portion of preheated air (54) is supplied to the dryer (33) and the temperature adjusted by blower (56) (col. 8 lines 45-53). Although Ando et al. does not disclose that drying is performed at a temperature of less than 200 °C (claim 1) or the temperature of off-gas is in excess of 300 °C (claim 5), it is well settled that where the principal difference between a claimed process and that taught by reference is a temperature difference, it is incumbent upon applicants to establish the criticality of that difference (Ex parte Khusid, et al., 174 USPQ 59).

Ando et al. does not disclose storing the ore for at least one month.

U.S.S. discloses that a principle source of iron ore in the United States is the Lake Superior District ore reserves that comprise porous ores (pp. 257-265). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use porous ores as disclosed by U.S.S. in the process of Ando et al. since Ando et al. discloses ores generally and U.S.S. teaches that such ores are a principle source of iron ore in the United States. Further, U.S.S. discloses that since ores are often not mined during colder months, during the warm months it is necessary to store approximately ½ year's supply near the furnaces (pp. 570-571). ½ year (6 months) is within the range of at least 1 month. Although this storage requirement is discussed in relation to blast

furnace production, the same problem would be expected for any facility utilizing the same feed material. Although U.S.S. does not specifically recite "micropore" the ore disclosed by U.S.S. meets the limitation "micropore" lacking further definition in the specification of limitation on pore size.

Ando et al. in view of U.S.S. does not disclose preheating ores to about 200 °C or charging at about 150 °C.

Kamikawa et al. discloses a process for reducing iron compacts by drying with low moisture air (abstract). Kamikawa et al. discloses that the preheating temperature should be set at 200 °C or lower to prevent formation of combustible gases from coal and above 120 °C to prevent condensation of sulfuric acid (col. 2 lines 17-41). The range of 200 to 120 °C overlaps the range of about 200 °C preheating and about 150 °C charging; therefore a prima facie case of obviousness exists (M.P.E.P. § 2144.05).

The grate drying preheating device disclosed by Ando et al. serves essentially the same function as the feed storage bin in instant claims 4 and 5, and further is heated with waste off-gas as discussed above. Motivation to alter the shape or configuration of a component (i.e. preheating device) disclosed by the prior art without altering the component's function to any other equally useful shape or configuration would have been obvious to one of ordinary skill in the art at the time the invention was made (see M.P.E.P. 2144.04 IV A and B).

Although Ando et al. discloses optionally adding limestone or dolomite (col. 5 lines 36-49), the addition of lime coated pellets is not disclosed, and the addition of limestone or dolomite is optional, therefore Ando et al. teaches charging separately from lime coated pellets as in instant claim 9.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen A. McNelis whose telephone number is 571 272 3554. The examiner can normally be reached on M-F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KAM
07/10/2007

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